IUVSTA NEWS BULLETIN

Number: 197 March 2025

Union Internationale Pour La Science, La Technique et Les Applications du Vide
International Union for Vacuum Science, Technique and Applications
Internationale Union für Vakuum Forschung, Technik und Anwendung

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IUVSTA Member Society events

Ivan Petrov, petrov@illinois.edu
IUVSTA Communications Committee Co-Chair

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Report on ECM 143 for IUVSTA bulletin
Hybrid meeting, Saturday, February 8th, 2025 TNO Delft, The Netherlands

Christoph Eisenmenger-Sittner, christoph.eisenmenger@ifp.tuwien.ac.at

The 143rd Executive Council Meeting of IUVSTA (ECM 143) was held on Saturday, February 8th, 2025 as a hybrid meeting with the on-site part located at the Delft branch of TNO (the Netherlands Institute for Applied Research) in the Campus of TU Delft, the Netherlands. Before ECM 143, the standing committees of the Union and STD met on Friday afternoon and Saturday morning to advance the business of IUVSTA, to discuss proposals for scientific events and to prepare the 22nd General Meeting of the Union, which will happen in the Framework of IVC 23 on Wednesday, September 17th, 2025 in Sydney Australia. Before ECM 143 and the associated meetings, the 102nd IUVSTA Workshop on Ultraclean Vacuum was held with over 100 participants. The workshop was considered as a great success according to the unanimous opinion of several participants. The excellent organization by the Freek Molkenboer and Brigitte de Roode contributed immensely to the success of the workshop. For ECM 143, the facilities of TNO provided an excellent framework with a flawless hybrid environment which made discussions between the participants on site and online easy and efficient.

In the afternoon of Saturday, February 8th, ECM 143 was officially started by the President, François Reniers. The Secretary General, Christoph Eisenmenger-Sittner in collaboration with the Recording Secretary, Ana G. Silva checked the attendance to determine the quorum. This was confirmed to be 85%, so ECM 143 was found to be safely quorate, with approximately 20 delegates being present on-site, and the remaining delegates using the possibility to join online.

After checking the attendance, the president François Reniers issued a brief opening statement. He welcomed all attendees and reported on the many activities of the Union during the period between ECM 142 and ECM 143. A core event was the hybrid Extraordinary General Meeting held in Brussels on January 14th, 2025, in the Office of the "Notaire de Résidence à Uccle-Bruxelles", to adopt the changes of the Statutes of the “International Union for Vacuum Science, Techniques and Applications”. The modified IUVSTA Statutes were printed out and signed by the participants on-site: the IUVSTA President François Reniers, the General Secretary Christoph Eisenmenger-Sittner; the Treasurer Arnauld Delcorte and the Recording Secretary Ana Silva. The President acknowledged the Secretary General, Christoph Eisenmenger-Sittner, for the effort and great work done on revision of the IUVSTA statutes which now allow for the legal operation of the Union also by means of remote meetings. They also now comply to Belgian financial regulations. Finally, François Reniers, informed that IUVSTA is a member of the ISC, represented by Martin McCoustra, and updated on the General Assembly of the “Earth-Humanity Coalition”.

The Secretary General, Christoph Eisenmenger-Sittner briefly remarked that his report was posted on the IUVSTA website. As an important item within this report, he mentioned that, although the day-to-day procedures of the Union remain basically unchanged, he would like to make all Directors (formerly Officers and Councillors) of the Executive Council aware that he needed to collect their private addresses and ID documents

at some point to satisfy the Belgian financial authorities. These data will be collected by the Secretary General when he calls for the new Directors and Alternate Directors (the former Councillors and Alternates) for the new Triennium 2025 – 2028. Data will only have to be provided by the nominated Directors.

After this statement of the Secretary General, the President, on behalf of the Treasurer Arnaud Delcorte, briefly presented the current status of the finances of the Union and of the payments of the subscription fees. All finances were found to be in good order, all questions and comments from the representatives of the member societies were clarified. He also remarked, that the final accounts of the year 2024 would be audited in the near future and have to be ratified during the General Meeting in Sydney.

As always in the penultimate Executive Council Meeting of a triennium, the next item on the agenda was the choice of a candidate for the position of the President Elect of the Union, who will be suggested to the General Meeting by the Executive Council. There were two candidates who, in alphabetical order, presented their Mission Statements to the Delegates: Freek Molkenboer (the Netherlands) and Anton P. Stampfl (Australia). After their respective presentations the candidates answered questions from the audience, and after this open round, the attendants of the Executive Council Meeting discussed on the candidates in their absence. A secret vote was performed by the Recording Secretary Ana G. Silva. The outcome of this secret vote was as follows: From 32 votes cast, there were 15 votes in favour of Freek Molkenboer, 11 votes for Anton Stampfl and 6 abstentions. Therefore, the candidate of the Executive Council for the position of the President Elect who will be suggested to the General Meeting is Freek Molkenboer.

The participants in the ECM

After the selection of the candidate for the President Elect, the next item on the agenda was the report of the Scientific and Technical Directorate. The Scientific Director, Katsuyuki Fukutani, emphasized the Scientific and Educational mission of the STD. He also reported on the fruitful meetings with the division chairs, which were focused on discussions on future activities. After that, reports of the IUVSTA Divisions were presented, as well as reports on past scientific events. The

Scientific Director also reported on the activities developed by the Sustainable Development Working Group. New Proposals for Schools, Technical Training Courses or Short Courses were not received. Two Workshop proposals were presented to the president for a vote by the Scientific Secretary, Anton Stampfl. They were voted openly by the Executive Council due to a very clear recommendation given by the votes taken in STD:

- the Workshop entitled "Oxides for Energy Applications: Bridging Experiment and Theory to Understand Functionality", to be held in Zaragoza Spain, June 2025, approved as the 107th IUVSTA Workshop.
- the Workshop entitled "Machine learning in Nanoscience", to be held in Mons, Belgium, July 2025, approved as the 108th IUVSTA Workshop.

ECM 143 continued with the reports of the committees which met earlier. A special emphasis was given to CPC in which the current status of IVC 23 (https://ivc23.org/) and the meetings associated therewith was presented. The chair of IVC 23, Anton Stampfl, gave information on the date and venue of ECM 144, which is scheduled for Saturday, September 13th and Sunday September 14th in the Sofitel Hotel Darling Harbor, Sydney. GM 22 and ECM 145 are scheduled for Wednesday, September 17th, at the ICC Sydney. Also, he informed the participants of ECM 143 that the abstract submission deadline for IVC 23 was extended to February 28th, 2025. In addition, the Chair of CPC, Carlos Tavares, gave information on the extended bidding procedure for IVC 25, due 2031 since no bids for this meeting were received so far due to a very close submission deadline. The deadline was now extended to April 30th, 2025, and further information will be distributed by the Chair of CPC and by the Secretary General. Finally, the status of the preparations for IVC 24 was given by Carlos Tavares. He informed the meeting participants that a final decision on the financial backing of the Congress by the University of Coimbra was due in March 2025.

Within the report of the Awards and Scholarships committee, the Chair of ASC, Timo Gans, informed the audience about the status of the several awards and prizes offered by the Union. Regarding the Welch Scholarship, he informed the Executive Council about the Winners of the Scholarship in 2025, Roey Ben David and Samira Dorri. He also presented a list of Awardees starting 2020, which is now also posted at the IUVSTA website. In regard to the Welch Scholarship the case of the Winner of 2020, Pierre Vinchon, was discussed. He asked to receive the prize money now, in 2025, because he received a Japanese stipend which excludes other financial support in the past years. This request was put to a vote and approved by ECM 143, given that the beneficiary provides a brief summary of his future work plans.

Finally, in conjunction with the Report of the Statutes Committee, the Secretary General, Christoph Eisenmenger-Sittner, reminded the participants of the Executive Council Meeting that he would solicit the names of the future Directors and Alternate Directors (the former Councillors and Alternates) of the new Triennium 2025 – 2028. Especially he remarked that the proposed Directors (formerly Councillors) will have to communicate their private address, a copy of their passport and a proof of residence (e. g. gas or electricity bill), not older than 3 months, to the Secretary General. These data will be transmitted to the Belgian financial authorities, Names and addresses will be published in the Belgian gazette.

After the report of the Statutes Committee, the last item on the agenda was Any Other Business. Since no items were raised here, the President finally expressed his gratitude to all participants of ECM 143 and then checked the motion to adjourn. The meeting ended on time at 17:45 CET thanks to the discipline of all attendants.


IVC-23
The 23rd International Vacuum Congress
15-19 September 2025
Sydney, Australia
Abstract submission. Closing 28 March!
The local organising committee is working to bring a cracker of a Congress this year
Sydney is a beautiful, friendly, safe and unique destination. Experience it with family and friends
Five Special Themes
Energy (EN), Environmental Sustainability (ES), Quantum Science and Technology (QST), Magnetic Surfaces, Thin-films, Interfaces, and Nanostructures (MAG), Neurotechnology (NT)
Nine IUVSTA Divisional and working group areas
Short Courses
Elsevier Student travel bursaries
Welch and Ebara Awards
IUVSTA Science and Technology Awards
Early career researcher events
Hosted by:
IUVSTA
VSA
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business events sydney
Contact us :
+61 2 9265 0700
ivc23.org
ivc23@arinexgroup.com

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100th IUVSTA Workshop 'How sustainable are thin films and thin film processing? Pathways towards responsible surface engineering'

Marcus Hans, hans@mch.rwth-aachen.de

The 100th IUVSTA workshop, supported by the German Vacuum Society (DVG), *How sustainable are thin films and thin film processing? Pathways towards responsible surface engineering* (https://iuvsta100.rwth-aachen.de) took place from October 27 to 31, 2024 at the nestor hotel Ludwigsburg, Germany.

Organization of the workshop was done by the IUVSTA Sustainable Development Working Group and members of the organizing committee were Dr. Marcus Hans (RWTH Aachen University, Germany), Prof. Christian Mitterer (Montanuniversität Leoben, Austria), Prof. Grzegorz Greczynski (Linköping University, Sweden), Prof. Claus Rebholz (University of Cyprus, Cyprus), Prof. Sven Ulrich (German Vacuum Society) and Dr. Michael Wahl (German Vacuum Society). The exciting four-day scientific program attracted 31 attendees (32 % female) with 13 invited (62 % female) as well as nine contributed (22 % female) talks. The workshop attendees were from 12 countries with an average travelling distance of 950 km, while the shortest and longest travelling distances were 10 km (Stuttgart, Germany) and 5940 km (Montréal, Canada), respectively.

The 100th IUVSTA workshop addressed the 2030 Agenda for Sustainable Development, adopted by all United Nations (UN) member states in 2015 and providing a shared blueprint for peace and prosperity for the people and the planet. At its heart are the 17 Sustainable Development Goals (SDGs), which established an urgent call for action by all countries in a global partnership. IUVSTA is one of the drivers and innovators in science, research and development related to the implementation of the SDGs in vacuum-based processes, materials and products, as these exhibit significantly reduced waste production compared to electrochemical surface modification processes such as electroplating. The workshop covered a wide range of topics related to vacuum science, its techniques and applications: hydrogen economy and energy storage materials, semiconductors, green aircraft, scalable low-dimensional functional materials, ceramic data storage media, microstructural and interface engineering, energy-saving processes and coatings, machine learning, the role of physical vapor deposition for a circular economy and how to bring advanced materials faster to the market.

A specific goal of the workshop was to nucleate and promote research and development leading to the implementation of the SDGs into surface engineering and thin film deposition, with a particular focus on the SDG 12 *Responsible Consumption and Production*. With its size and venue, the workshop was ideally suited to foster discussions and create awareness of the economical, societal and environmental impact of vacuum process technologies, materials and products. An outstanding feature of the workshop were the exciting and intense discussions, enabled through 60 min time slots for invited talks as well as 30 min for contributed talks. First ideas were gathered in an opening discussion and debated in depth after the talks as well as within a lively

panel discussion. Importantly, these discussions benefited from bringing together individuals from different communities in vacuum science, technique and applications, spanning three generations. While physical vapor deposition was in focus, sustainability-related aspects of chemical vapor deposition, atomic layer deposition as well as additive manufacturing were also discussed. The 29 % fraction of workshop attendees from industry contributed with exciting application-related topics to these discussions.

Moreover, this workshop represented the first public activity of the recently established IUVSTA Sustainable Development Working Group. The most important conclusions from the workshop, including suggestions on how to add sustainability topics in education and innovation, will be published in the form of a short communication in a peer-reviewed scientific journal.

Workshop attendees in front of the Ludwigsburg residential palace.

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104th IUVSTA Workshop – Current Trends in Low-Dimensional Materials

Alejandro Ferron, aferron@exa.unne.edu.ar

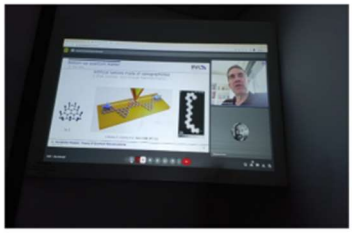
The 104th IUVSTA Workshop, titled *Current Trends in Low-Dimensional Materials: From Molecular Systems to Heterostructured Nanomaterials*, occurred from September 16 to September 20, 2024, at the National University of San Luis, Argentina. Organized as a satellite event of the 109th Annual Meeting of the Argentinian Physical Society (109 RAFA), the workshop successfully brought together ~50 participants from eight countries from Europe and America (Spain, Germany, Sweden, USA, Mexico, Chile, Brazil, and Argentina), fostering discussions and collaborations on cutting-edge topics in low-dimensional materials.

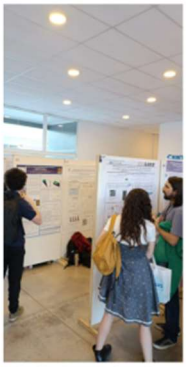
The program featured 12 high-level invited talks and 9 contributed presentations covering a diverse range of topics, including Dirac matter (graphene, topological insulators, and semimetals), STM-ESR techniques, non-equilibrium topological phases, quantum transport, and magnetic effects in nanostructures. The participation of both theorists and experimentalists enriched the discussions, bridging fundamental studies with potential applications in nanotechnology and quantum devices. An important event activity was the roundtable discussion about the promotion of IUVSTA activities in Latin America. Representatives from national scientific associations from Argentina, Spain, Brazil, Cuba, Ecuador, and Guatemala, along with IUVSTA officials, engaged in a productive dialogue on strengthening collaborations in the region.


Pedro Nascente


Round table reception


José H. García


Joaquín Fernández-Rossier


RAFA Poster Session


RAFA Camaraderie dinner


Jazmín Tapia


FEIASOFI Assembly

The session, titled *IUVSTA's promotion of science education, techniques, and applications in Latin America*, aimed to highlight the importance of IUVSTA's mission in fostering advancements in vacuum science, surface science, and related fields while emphasizing the unique challenges and opportunities in Latin America. Participants

shared insights into the current state of research infrastructure, educational programs, and the growing need to strengthen regional networks to facilitate knowledge exchange. A key outcome of the discussion was recognizing the potential pivotal role that IUVSTA can play in supporting local initiatives and connecting researchers from Latin America with the global scientific community.

Some Talks *(Guangze Chen, the public, Rodrigo Barbosa Capaz, Hugo Garcia, Joaquin Fernandez Rossier)*





The workshop also played an important role in the 80th anniversary of the Argentinian Physical Society celebration, reinforcing ties between IUVSTA and regional scientific communities. Social events, such as the camaraderie dinner and poster sessions of the RAFA, provided additional networking opportunities in a relaxed environment. Thanks to the financial support of IUVSTA, the National University of San Luis, and the Argentinian Physical Society, the workshop successfully created a space for knowledge exchange and the generation of new collaborations. The positive feedback from participants highlighted the scientific quality and organizational excellence of the event. The discussions and connections established during this meeting are expected to drive future joint initiatives and reinforce IUVSTA's presence in Latin America.

Some Talks *(Luis Foa Torres, Wilfred Tysoe Chrsitian Ast, Armando Aligia, and Elin Winkler)*





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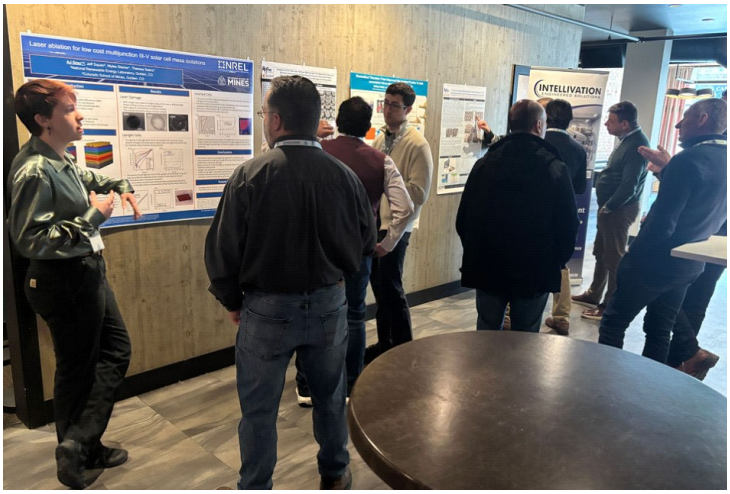
106th IUVSTA Workshop on Laser Processing

Christopher Muratore, cmuratore1@udayton.edu

From February 17-21, 2025, the IUVSTA Surface Engineering Division was pleased to host 106th IUVSTA Workshop on Laser Processing at the Rose Event Center in Golden, Colorado, USA. The workshop featured a series of keynote talks and presentations accompanied by ample discussion time involving scientific leaders pioneering laser-based methods for materials synthesis and surface patterning. Two satellite short courses were associated with the workshop. Rapid, low-cost device fabrication coupled with non-equilibrium processing allows access to materials processing space otherwise unattainable for realization of novel materials, devices, and technologies in areas of high economic, societal and environmental impact.



Laser processes addressed by the presenters and subject to discussions included (i) rapid patterning of microelectronic devices without photolithography (sensors, medical implants, and hardware for experiments & IoT devices) (ii) laser-based conversion and synthesis of high quality, crystalline materials (energy harvesting, low-power computing, multifunctional 'More than Moore' electronic device technology, and large area photocatalysts) • control of nano-micro scale surface morphology (cell adhesion, directed fluid flow).

In addition to 11 keynote speakers, attendees submitted 6 poster presentations. We hosted a poster flash session for all poster presenters to provide 5-minute introductions of their works orally. The workshop was attended daily by 30 individuals with a high level of engagement during discussion periods and throughout the event. Additionally, excursions to the famed Coors Brewery and the Colorado School of Mines with one of the largest operational university research foundries were organized. We also visited the National Renewable Energy Laboratory which in the US specializes in the research and development of renewable energy, energy efficiency, energy systems integration, and sustainable transportation. Workshop attendees were impressed with the facility and the global impact of the work performed there.

information about the event is featured here, and more photos can be seen with this link.

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The 102nd IUVSTA workshop on ultra-clean vacuum

Molkenboer, F.T. (Freek), freek.molkenboer@tno.nl

From February 3 – 5 TNO and the Dutch vacuum society (NEVAC) hosted the 102nd IUVSTA workshop on ultra clean vacuum in Delft (NL).
The event was very successful, with participants from various parts of the vacuum world, both domestic and international, interacting extensively.

Program

Many international visitors arrived in Delft on Sunday. We welcomed them by organizing a tour and painting workshop at the Royal Delft and an informal reception. On Monday the workshop began. Martin Wüest welcomed the participants, followed by presentations from TNO HTI science director Helen Kardan and Freek Molkenboer. The science committee selected 15 speakers, top experts in their fields, from five technology domains. Each speaker had one hour, including 15 minutes for questions and discussion, leading to lively interactions, often continuing into coffee breaks.

Speakers

- **Antoine Kempen (ASML)**: Discussed ASML's journey into vacuum technology, emphasizing the importance of minimizing components in vacuum and using hydrogen as a fill gas.
- **Delphine Faye (CNES)**: Focused on contamination issues in space technology, highlighting stringent standards and testing methods.
- **Klaus Bergner (Vacom)**: Showcased Vacom's approach to controlling contamination throughout the production chain.
- **Stefan Hanke (KIT)**: Addressed ultra-high vacuum requirements for the Einstein Telescope, using specialized cryopumps and simulations.
- **Rients de Groot (Thermo Fisher)**: Discussed cleanliness control in electron microscopes and consistent material supply.
- **Yessica Brachthauser (Inficon)**: Presented on RGAs and discussed grid designs affecting sensitivity and outgassing levels.
- **Eleonie van Schreven (TNO)**: Shared insights on product assurance for space instruments.
- **Paul Blom (VDL-ETG)**: Presented a study on particle behavior in transitional flow, using plasma to charge and remove particles.
- **Orcun Engincan (ESA)**: Discussed ESA's approach to contamination control in space projects.
- **Luisa Spallino (INFN)**: Addressed limiting H2O ice formation on optics using low-energy electron beams.
- **Christian Schelle (VAT)**: Presented a vacuum particle test stand for VAT valves.
- **Romain Ganter (PSI)**: Explained achieving ultra-high vacuum and low leak rates using specialized materials and bake-outs.

- **Paul Mertens (IMEC:** explained the contamination challenges during the production at IMEC
- **Véronique de Rooij (TNO)**: Explained XPS analysis principles and benefits.

The presentations were alternated by break-out sessions during which participants shared and discussed on selected topics. Despite competition and confidentiality considerations, lively and useful discussions took place.

Social events included dinners on Monday and Wednesday, and excursions to the Boerhaave Museum, TU Delft, and a historical tour of Delft. The workshop concluded on Thursday with a group photo.

The organization was satisfied with the event's success, emphasizing the importance of various committees:

- **Science Committee**: Norbert Koster, Martin Wüest (Inficon), Kees Feenstra (ASML), Marcy Stutzman (Jefferson Lab)
- **Partner Committee**: Timo van Leent (Mikrocentrum), Wouter Jonker (DSPE & TNO), Pieter Kappelhof (DSPE & Hittech Multin), Jos Bijman (VCCN), Remko Noor (VCCN & D2 Ontwikkeling)
- **Local Organizing Committee**: Freek Molkenboer, Brigitte de Roode, Kleo Papamichou, Hans van Dijk

Sponsors

High Tech Institute, Vacom, ThermoFisher, NTS, VAT, SPECSGROUP, D&M, Kurt J. Lesker, Pfeiffer Vacuum.

The participants in the workshop

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105th IUVSTA Workshop

"Characterization of gas transport through materials: applications to Vacuum Science and Technology"

October 21st - 24th, 2025 Santa Margherita Ligure - Portofino, Italy

www.aiv.it/en/workshop

Scope: Stimulate discussions and collaborations between different scientific areas where gas transport through materials is the common topic and Vacuum Science and Technology make a significant contribution. The IUVSTA workshop will provide a unique opportunity to engage the community on following themes

- **Gas Transport Models**
  - Dense and porous materials
  - Adsorption and desorption at surfaces
  - Definition of quantities and their unit
- **Vacuum Technology**
  - Insulations
  - Components characterization
  - Outgassing
- **Membranes / Thin Films Technology**
  - Gas separation
  - Gas barriers
  - Gas sensors
  - Food packaging
  - CO_2 capture
  - H_2 storage
- **Apparatus for Gas Transport Quantities Measurements**
  - State of the art and the contributions of high vacuum technology

The workshop will include invited lectures from the **lead experts** and **contribution talks**. It will make time for critical discussions to encourage collaboration and exchange, and it will be able to draw conclusions about open questions. The number of delegates is limited, and the venue has been selected to provide an ideal environment for discussion.

Key data

Abstract submission	Abstract decision notifications	Registration
Opening: January 1st, 2025 Deadline: June 30th, 2025 – September 15th (extended)	February 1st - September 30th, 2025	Opening: February 1st, 2025 Early registration fee deadline: September 1st, 2025

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105th IUVSTA Workshop Invited Speakers

Irina Graur
University of Marseille, France
Gas transport in low porous media: measurements and modelling

Elsa Batista
Portuguese Institute for Quality, Portugal
MFMET project - Establishing metrology standards in microfluidic devices II

Yoshida, Hajime
National Metrology Institute of Japan, Tsukuba, Japan
Development of SI traceable Measurement Method for Gas and Water Vapor Permeation Rate using Quadrupole Mass Spectrometer (QMS) method

Jonas Golde
Fraunhofer-Institut für Werkstoff- und Strahltechnik IWS, Germany
A New Instrument for the Simultaneous Determination of Oxygen and Water Vapor Permeation Rates

Jay Hendricks
NIST, USA
TBD

Sergio Bocchini
Polytechnic of Turin, Italy
Microbalance Techniques for Gas Diffusion: Insights and Limitations in High-Performance Membranes

Mikhael Bechelany
CNRS/European Institute of Membranes, France
Innovative Progress and Emerging Applications of Atomic Layer Deposition (ALD) in Gas Separation Membranes

Johannes Carolus Jansen
Institute of Membrane Technology, CNR-ITM, Italy
Analysis of pure and mixed gas transport in advanced gas separation membranes

Maria Grazia De Angelis
University of Edinburgh, UK
Sorption and transport of multicomponent gas mixtures in membranes: experimental and modeling analysis

Orlando M.N.D. Teodoro
Center for Physics and Technological Research CEFITEC, Physics Department, Faculty of Sciences and Technology, Universidade Nova de Lisboa, Portugal
Advances in Metrology and Modelling of Gas Transport Through Cork Closures

IUVSTA Scientific Sponsoring Divisions

Vacuum Science and Technology Division (VSTD) - Thin Film Division (TFD) - Applied Surface Science Division (ASSD) - Surface Engineering Division (SED) - Surface Science Division (SSD) - Plasma Science and Technologies Division (PSTD)

If you activities include gas transport through materials, attending the 105th IUVSTA workshop is an unique opportunity to explore these topics in a relaxing and wonderful place

www.aiv/workshop

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20th International Conference on Thin Films

ICTF 2026 will be organized by the French Vacuum Society in **Biarritz** (France) from **8 to 11 June 2026**. Biarritz is a famous city located on the Atlantic coast close to the Spanish border (southwestern of France). This city of 25,000 inhabitants is a high place of tourism in France. Each year, about 65,000 people come to Biarritz to participate in national or international conferences. The accommodation capacity in Biarritz is approximately 3,500 rooms. As tourist attendance is relatively low in June, ICTF 2026 participants should be able to easily find accommodation in Biarritz. ICTF 2026 will be organized in the "**Bellevue**" conference center that is located in front of the Atlantic Ocean.

Main topics

Extensive research in the areas of surface science and engineering over the past 30 years has enabled knowledge-driven design and development of thin films and functional coatings with attributes tailored to desired applications for e.g., surface protection, optics and photonics, catalysis, energy storage, conversion and saving, and interaction with biological systems. The increasing demand for new materials with combined innovative functionalities necessitates control of thin film microstructure and architecture at the nanoscale. This conference will be dedicated to main development on thin films elaboration, characterization and applications. The following topics will be covered during the next ICTF conference:

- Thin films and sustainable development
- Thin films for renewable energies
- Thin films for health and life science
- Thin films for optics and electronics
- Thin films growth and modelling
- Protective and tribological coatings
- Thin films for catalytic and sensing applications
- Artificial intelligence applied to thin films
- Nanomaterials, nanostructured thin films
- Hybrid materials
- Surface science
- Applied surface science
- Advanced characterization methods
- Surface engineering

SFV www.vide.org

Organized by :
Société Française du Vide
19, rue du Renard - 75004 Paris, France
sfv@vide.org - www.vide.org

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https://ecoss38.pt/

The **38th European Conference on Surface Science (ECOSS-38)** which will be held from 24 Aug - 29 Aug 2025 in Braga, Portugal, organised by the Faculty of Sciences of the University of Porto.

ECOSS is a well-established annual meeting directed jointly by the Surface Science Division of the International Union for Vacuum Science, Technique and Applications (IUVSTA) and the Surface and Interface Section of the European Physical Society (EPS).

The conference provides an excellent opportunity for scientists, researchers and engineers from across Europe and from all over the world, working in academia, national labs and industry, to meet and discuss the latest advances in the physics and chemistry of surfaces, along with their industrial applications. Furthermore, it is a forum to discuss the progress of surface science in related innovation fields such as heterogeneous catalysis, organic molecular nano-architectures, two-dimensional materials and graphene, nanoelectronics, bio-nanoscience and functional and energy materials, etc., studied both using theoretical and experimental methods.

This five-day event will take place in the beautiful historic city of Braga, in the Minho region of Northern Portugal. Situated approximately an hour from Porto International Airport, Braga offers a unique blend of ancient culture, charm and modern amenities. The event will bring together leading experts, scientists and engineers at all stages of their careers and research students for a series of stimulating presentations and in-depth discussions, exploring the latest advancements and emerging trends across the entire spectrum of IUVSTA

Carlos Jose Tavares, ctavares@fisica.uminho.pt

The Chair of the Plasma Science and Technology division, Miran Mozetič, was awarded the Plasma Innovation Prize at the 8th Asia-Pacific Conference on Plasma Physics, Melaka, Malaysia (3rd – 8th November 2024). The Plasma Innovation Prizes are awarded by the Division of Plasma Physics, Association of Asia Pacific Physical Societies. The Association was founded in 1989 and aims to promote the advancement of knowledge in physics, including research, application, and teaching, especially through international collaboration. The Plasma Innovation Prize was established to recognize the seminal/pioneering/innovative work in the field of plasma applications with a focus on impacts on industry. Four awardees have been announced so far. The fifth awardee, Miran Mozetič, gained this award for his outstanding contributions to the development and commercialization of selective plasma surface functionalization and etching technology for polymers and polymer blends; for developing unique tools for spatiotemporal density measurements of atoms in weakly ionized plasmas and plasma afterglows, that have helped elucidate the plasma surface treatment mechanisms; for employing the techniques for mass production and commercialization of composite commutators and sensors for plasma radical measurement. The press release is available at

https://www.aappsdpp.org/AAPPSDPPF/news/pressrelease_PIP2024.pdf

and the awardee's bibliography at

https://scholar.google.com/citations?user=7T8y0RAAAAAJ

The Chair of the Selection Committee, Sudeep Bhattacharjee and Miran Mozetič (right)

https://www.uc.pt/events/ibertriva2025/

In the 2025 edition, both meetings, **XIII Iberian Conference on Tribology – IBERTRIB 2025** and **XIII Iberian Vacuum Conference – RIVA 2025**, occur concurrently as the IBERTRIVA2025 event in a charming location, the nice city of Coimbra, organized by the CEMMPRE - Centre for Mechanical Engineering, Materials and Processes at the Department of Mechanical Engineering of the University of Coimbra. A special session led by the European Research Network Mobility GT will be held, focusing on the challenges of surfaces and interfaces related to sustainable green mobility. This would be a special opportunity to gather scientists from both communities, academia and industry, sharing their results, advances and new challenges. IBERTRIB is a biennial symposium assembling researchers working on Tribology from Spain and Portugal, changing the location between both countries. Similarly, RIVA conference is organised every two years by the Spanish and Portuguese Societies of Vacuum (ASEVA and SOPORVAC).

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AVS 71st International Symposium & Exhibition

September 21-26, 2025, Charlotte, North Carolina

Website: https://avs71.avs.org/ **Call for Abstracts Deadline: April 1, 2025**

"Engineering the Future: Collaborative Frontiers in Surface, Quantum, and Energy Sciences"

Featuring Technical & Poster Sessions - Mini Symposia – Exhibits - Professional Development - Career Services – Training on Emerging Topics Related to Materials, Processing & Interfaces

The AVS International Symposium and Exhibition addresses cutting edge issues associated with materials, processing and interfaces in both the research and manufacturing communities.

The weeklong Symposium fosters a multidisciplinary environment that cuts across traditional boundaries between disciplines, featuring papers from AVS Technical Division, Groups, Focus Topics on emerging technologies and more.

An extensive Exhibition of related equipment, tools, materials, supplies, chemicals, services, consulting, technical literature, and new technologies are showcased during the week.

Undergraduate Poster Session: AVS 71 will host the fifth annual Undergraduate Poster Session, open to any undergraduate researcher. This special session provides undergraduate researchers the opportunity to present and network with students, professors, and industry leaders! We welcome undergraduates to share their important work with all Society members and greatly encourage participation! Registration is discounted for undergraduate students and limited travel assistance may be available.

Special Events:

- AVS 5th Quantum Science Workshop
- AVS Equipment Exhibition
- Biomaterials Plenary Session (All-Invited)
- Nanoscale Science and Technology Plenary Session (All-Invited)
- Professional Development and Member Center Activities + More
- Nineteenth Topical Conference on Quantitative Surface Analysis (QSA-19)

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French Vacuum Society Conferences

CLiQ2025

Abstract submission deadline:
13 April 2025

ABLATOM ELEMENTAL LASER SOLUTIONS

JEOL

Topics:

Characterization techniques

- Electron microscopy
- Electron/Ion/Neutron/Photon spectroscopies
- NMR, RPE, DNP
- In situ and operando techniques
- Mass spectrometry
- Quantitative analysis

Applications

- Geology
- Extraction of lithium, purification, recycling
- Li alloys, glasses
- Li batteries
- Micro-nanoelectronics, photovoltaics

Invited speakers

- **Fabien Burdet** (ERAMET Group, France)
- **Dany Carlier-Larregaray** (ICMCB, France)
- **Hendrix Demers** (Hydro-Québec, Canada)
- **Colin McRae** (CSIRO, Australia)
- **Nathalie Vigier** (IMEV, France)

SFV Société française du Vide

leti CEA tech

www.cliq-conference.com

Conference co-chairs

E. De Vito
CEA Liten, Grenoble (FR)

P. Jonnard
Sorbonne Univ, Paris (FR)

Important dates 2025

13 April	Abstract deadline
12 May	Notification
15 May	Program online
4 June	Deadline for regular rate

CAMECA SCIENCE & METROLOGY SOLUTIONS / AMETEK

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HIDEN ANALYTICAL

nano optics berlin nob

PHYSICAL ELECTRONICS A DIVISION OF ULVAC-PHI

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SCIENTIFIC COMMITTEE

Vasco GUERRA (PT) Chair of the conference

Corinne CHAMPEAUX (FR) Chair of the steering committee

A. Anders (DE)
T. Belmonte (FR)
J. Benedikt (DE)
A. Bogaerts (BE)
A.I. Borras Martos (ES)
P. Bruggeman (US)
C. Costin (RO)
U. Cvelbar (SI)
H. De Haan (NL)
J. Endrino (ES)
A. Granier (FR)
K. Haenen (BE)
S. Hamaguchi (JP)
M. Hori (JP)
A. von Keudell (DE)
T. Minea (FR)
T. Murphy (AU)
I. Petrov (US)
R. Snyders (BE)
A. Sobota (NL)
L. Stafford (CA)
L. Zajickova (CZ)
S. Zhang Shanyong (CN)

PLENARY SPEAKERS


Jones Alami
Mohammed VI Polytechnic Univ. (MA)


Marcela Bilek
Univ. Sydney (AU)


Mariadriana Creatore
Univ. Eindhoven (NL)


Olivier Guaitella
LPP, Ecole Polytechnique, Palaiseau (FR)


Amanda Lietz
NC State Univ. (US)

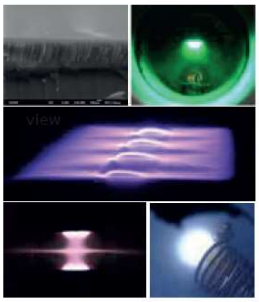

Ryo Ono
Univ. Tokyo (JP)


Mohan Sankaran
Univ. Illinois, Urbana Champaign (US)

KEY DATES

December	Call for papers
28 February	Deadline for submission
31 March	Authors notification
10 April	Overview - Program online
29 August	Deadline for posters

4 days conference
1 day short course
2 days exhibition



SFV Société Française du Vide
CONFERENCE SECRETARY: FRENCH VACUUM SOCIETY
Société Française du Vide (SFV) | phone: +33 (0)1 53 01 90 30
19 rue du Renard F-75004 Paris | sfv@vide.org / www.vide.org

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ISSS-10 Conference Report

Ken Nakajima, Institute of Science Tokyo; Steering Committee Chair; Yasunori Tanimoto, KEK; Steering Committee Vice-Chair Takashi Uchihashi, NIMS; Program Committee Chair; Katsuyuki Fukutani, the University of Tokyo; Conference Chair

The 10th International Symposium on Surface Science
ISSS-10
Innovations for a Better Society
October 20-24, 2024
Kita-kyushu, Japan

International Symposium on Surface Science (ISSS)

ISSS is a series of international conferences organized by the Japan Society of Vacuum and Surface Science (JVSS). It originated in 1989 when the first conference (ISSS-1) was held to celebrate the 10th anniversary of the founding of one of the JVSS's predecessors, the Surface Science Society of Japan. In 2024, the 10th conference (ISSS-10) was held at the Kitakyushu International Conference Center from 20 to 24 October in conjunction with the JVSS Annual Meeting, JVSS2024.

The theme of ISSS-10 was 'Innovations for a Better Society', and regular sessions were composed of seven topics: 'Surface Structures and Characterization', 'Physics at Surfaces and Interfaces', 'Nanotechnology and Nanomaterials', 'Surface Chemistry and Dynamics', 'Environmental and Energy Applications', 'Soft/Bio Interfaces', 'Vacuum Technology and Surface Engineering'. In addition, three focused sessions were organized: 'Carbon Neutral', '2D Materials and Beyond', and 'AI and Informatics'.

The scientific program consisted of three plenary lectures, three keynote lectures, two each of the Grand and Rising Rohrer Medal Award lectures, 35 invited talks, 126 contributed talks in five parallel sessions, and 288 poster presentations. 510 participants gathered together from 21 countries in Asia, Europe, and North America, making the conference an international event reminiscent of the days before the COVID pandemic.

Exhibitions were sponsored by 19 companies and luncheon seminars were hosted by four companies. The endorsement of IUVSTA and the cooperation of 10 International Affiliate Societies successfully made the conference more international.

Public lecture

On Sunday, 20th October, the public lecture entitled 'What is a Vacuum Robot?' was by given by Prof. Iwao Sasaki of YASKAWA Electric Corporation. Many citizens including elementary, junior high- and high-school students gathered for the lecture.

Opening Ceremony and Plenary Lectures

In the Opening Ceremony, Prof. Ken Nakajima (Steering Committee Chair) and Prof. Katsuyuki Fukutani (Conference Chair) gave welcome addresses, followed by a congratulatory speech by Mr. Kenichi Katayama, Deputy Mayor of Kitakyushu City.

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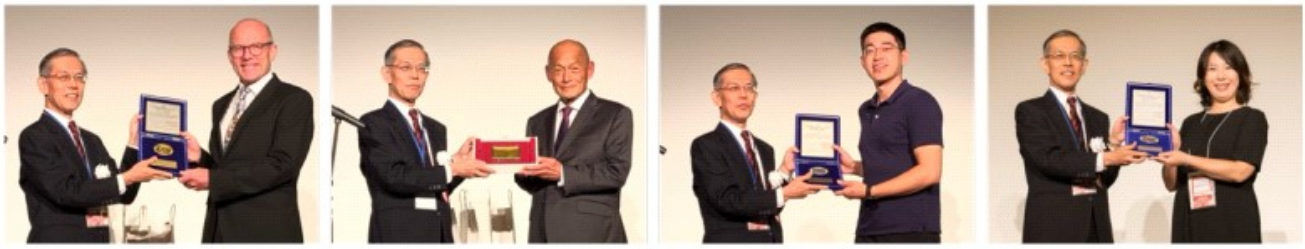
The main hall was then occupied by the audience of two plenary lectures on 'Ultrafast Photoelectron Spectroscopy and Microscopy on Nanofemto Scale' by Prof. Hrvoje Petek (University of Pittsburgh, USA) and on 'Catalytic Mechanism Contributing to a Carbon-Neutral Society' by Prof. Junji Nakamura (Kyushu University). Another plenary lecture was given on the morning of the second day by Prof. Peter Walde (ETH Zurich, Switzerland) on 'A New Method for the Controlled Immobilisation of Enzymes on Silica Surfaces'.

Excursion, Banquet, and Award Ceremony

Two courses of excursions were arranged on the afternoon of the third day: 1) Mojiko Retro Town and Kanmon Strait, and 2) Hiraodai Limestone Cave. Prior to the banquet, the Award Ceremony of the 4th Heinrich Rohrer Medals was held, where a letter signed jointly by Mrs. Rose-Marie Rohrer and her daughter Doris S. Rohrer was introduced. The JVSS President Prof. Satoshi Watanabe handed the Grand Medals to Prof. Franz J. Giessibl (University of Regensburg, Germany) and Prof. Wilson Ho (University of California, Irvine, USA), and the Rising Medals (for young scientists) to Dr. Yi Chen (Beijing University, China) and Dr. Miyabi Imai-Imada (RIKEN).



Young Researcher and Student Awards were subsequently presented to four and ten winners, respectively.

After a traditional kagami-biraki ceremony (opening a sake barrel), Professor Petek proposed a toast. A music concert was held, featuring a project to make bamboo cellos and other stringed instruments using waste wood from bamboo forest maintenance.

The next ISSS-11 was announced by Prof. Yukio Hasegawa (ISSS-11 Chair, the University of Tokyo) to be held at the Toki Messe in Niigata from 14 to 18 November, 2027.

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The 12th International Workshop on Functional Nanocomposites (Nanoworkshop 2025)-(previously known as International Workshop on Metal-Polymer Nanocomposites) to be held from 7 to 10 September 2025 in La Rábida (Huelva, Spain), headquarters of the International University of Andalusia (UNIA). This is the first time that Nanoworkshop 2025 will be held in Spain. For this reason, it will occur near the Doñana National Park, the largest nature reserve in Europe with over 50,000 hectares and protected areas of high biodiversity.

The workshop aims to bring together materials scientists, physicists, chemists, and engineers from academia and industry to share the latest developments in functional nanocomposites. Topics range from advanced preparation techniques and new material properties to industrial applications and include computer simulations and theoretical work. While the initial focus was on polymer-based nanocomposites, over the years it has been extended to functional nanocomposites in general.

Topics

1. **Fabrication of functional anocomposites** ▪ PVD and CVD techniques ▪ Plasma based approaches ▪ Wet chemical methods ▪ Bio-driven and bioinspired methods	2. **Characterization and modelling** ▪ Electronic and magnetic properties ▪ Optical and plasmonic properties ▪ Catalytic properties ▪ Mechanical and tribological properties ▪ AI guidance for nanomaterials synthesis & applications	3. **Applications** ▪ Biomedical, sensors and environmental applications ▪ Energy; Photonics; Flexible electronics; ▪ Memristive devices and neuromorphic computing ▪ Functional coatings

More Information: **https://wp.icmm.csic.es/nanoworkshop2025/**

The registration for Nanoworkshop 2025 is open **until August 1** using this registration link.
Abstract submission is open until **June 15th** using abstract submission link**.**